

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new traffic control signal at the intersection of US 301 and Jefferson Lane in Charles County, Maryland. US 301 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to operate in a NEMA two (2) phase, full-traffic-actuated mode. There will be an exclusive/permissive left turn phase for the northbound movement of US 301. The southbound US 301 through movements will operate alone. The northbound US 301 movement and Jefferson Lane movements will be unsignalized.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, and one 4-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

The existing overhead I/C from Holly Tree Road to Pierce Road shall be pulled back and reused at this location. A new piece of I/C will be reinstalled from Pierce Road to new cabinet at US 301 and Jefferson Lane..

EQUIPMENT LIST

A. Equipment to be furnished by MD_SHA and installed by the Contractor.

Quantity	Units	Description
1	EA	Rack Mounted Power Supply
1	EA	4-Channel Rack Mounted Amplifier
1	EA	Cabinet with telemetry (System Cab) Size 6.
1	EA	Controller ASC II with telemetry.
65.63	SF	Flat sheet aluminum sign - yellow, orange, or silver. [2 each - 48 in x 48 in. W-3-5]. [1 each - 60 in. x 36 in. R 10-56C]. [1 each - 16 in. x var. D-3(1)]. [1 each - 30 in. x 51 in. shield assembly]. [1 each - 36 in. x 42 in. R 10-12(4)]. [1 each - 30 in. x 36 in. R 3-5(R)].
4	EA	Sign hardware 30 in. form tube.

B. Equipment to be furnished and/or installed by the Contractor.
All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Description
Lup Sum	LS	Maintenance of traffic.
Lup Sum	LF	Mobilization.
3	LS	Test pit excavation.
75	CY	5 in. white pavement marking - paint
95	LF	24 in. white HAPPTM for stop line.
325	SF	4 in. concrete sidewalk.
6.6	CY	Concrete for signal foundations.
1	EA	14 ft. pedestal pole on break away base.
1	EA	Clean, cut, galvanize, and cap traffic signal structure.
1	EA	Weatherhead 3 in.
3	EA	Microloop probe set with 1000 ft. lead-in.
125	LF	Sawcut for signal loop detector.
10	LF	1 in. liquid tight flexible non-metallic conduit - sleeve.
340	LF	2 in. (Schedule 80) PVC electrical conduit - trenched.
55	LF	4 in. (Schedule 80) PVC electrical conduit - trenched.
200	LF	4 in. (Schedule 80) PVC electrical conduit - slotted in roadway.
6	EA	Electrical handhole.
4	EA	Ground rod (3/4 in. x 10 ft. length).
1425	LF	12-pair communication cable, self-supporting (overhead).
450	LF	Loop detector wire encased in flexible tubing (No. 14 AWG).
140	LF	Electrical cable - 2-conductor (aluminum shielded).
360	LF	Electrical cable - 5-conductor (No. 14 AWG).
140	LF	Electrical cable - 7-conductor (No. 14 AWG).
105	LF	Electrical cable - 2-conductor (No. 12 AWG) Type in. TC in.
225	LF	Stranded bare copper ground wire (No. 6 AWG).
75	LF	Electrical cable - 1-conductor (No. 4 AWG) - THHN/THWN.
82	LF	Wood sign supports 4 in. x 6 in.
1	EA	250 watt HPS luminaire with photo cell.
1	EA	15 ft. lighting bracket arm for traffic signal structure.
1	EA	Control and distribution equipment (120/240, 1 phase, 3 wire).
1	EA	Master arm pole and twin 50/60 ft. mast arm.
1	EA	12 in. 3-section (R,Y,G) black faced vehicular traffic signal head with post top mounting hardware.
5	EA	12 in. 3-section (R,Y,G) black faced vehicular traffic signal head with mast arm mounting hardware.
1	EA	36 in. x 42 in. R 10-12(4) sign - mast arm mount.
1	EA	30 in. x 36 in. R 3-5(R) sign - mast arm mount.

CONTACT LIST

The contact persons for District #5 are as follows:

Mr. Paul Armstrong
District Engineer
410-841-6460

Mr. Lawrence Elliot
Assistant District Engineer - Traffic
410-841-1003

Mr. John Mays
Assistant District Engineer - Utility
410-841-5450 ext.30

Mr. Chuck George
Assistant District Engineer - Maintenance
410-841-5461

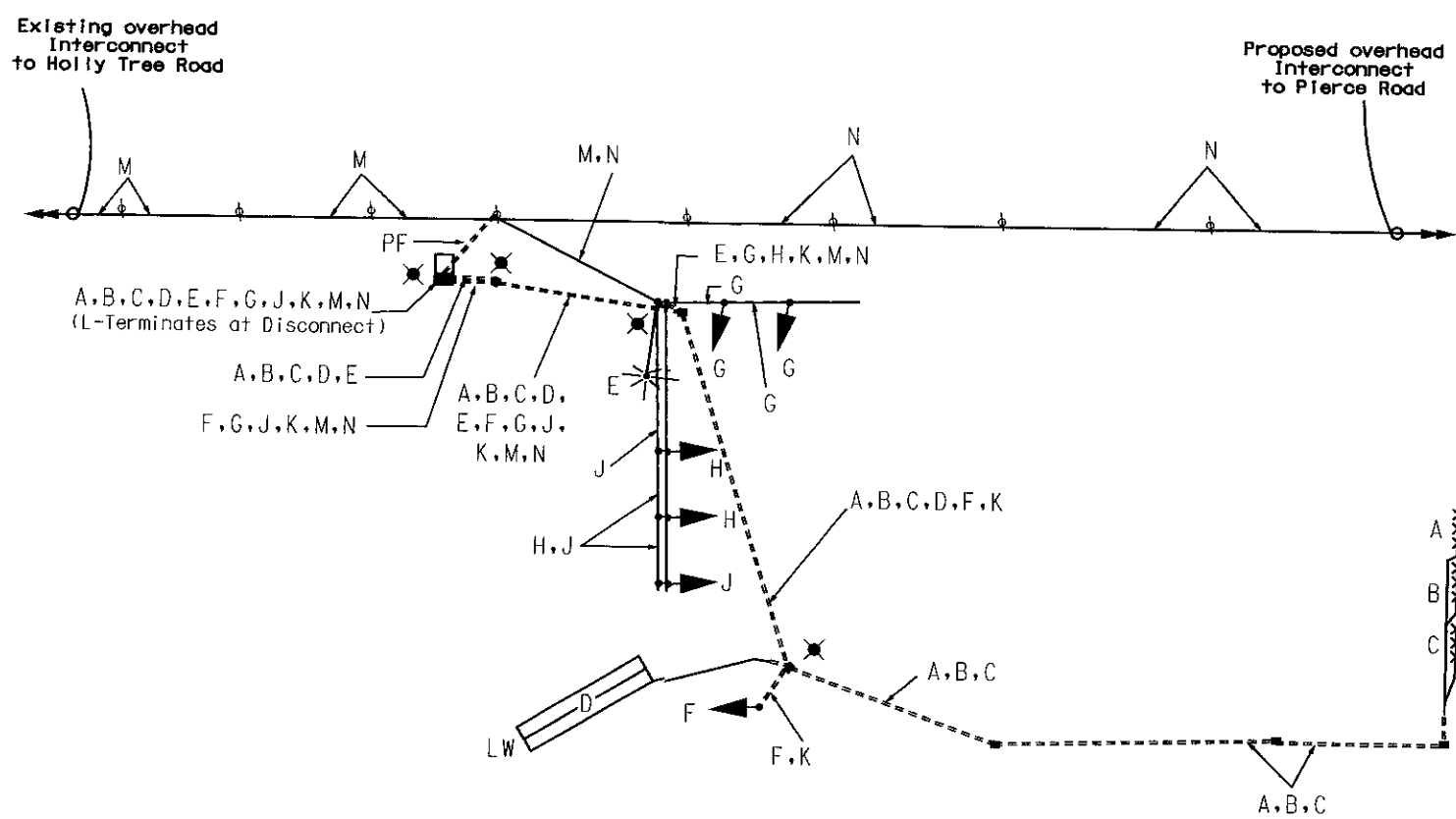
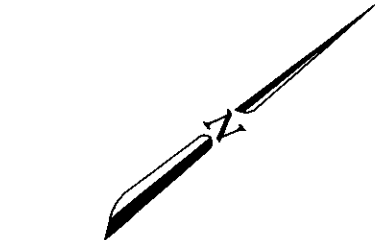
Mr. Richard L. Daff
Chief, Traffic Operations Division
410-747-7630

The Power Company Representative is:
SMECO
Mr. Donnie Hopkins
P.O. Box 37
Prince Frederick, Maryland 21076
410-535-4400


Phase Chart

	1	2	3	4	5	6
	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)
Phase 1	←G←	R	R	R	G	G
1 Change	←Y←	R	R	R	Y	Y
Phase 2	←FLZ R	G	G	G	FL/R	FL/R
2 Change	←FLZ R	Y	Y	Y	FL/R	FL/R
Fashing Operation	←FLZ R	FL/Y	FL/Y	FL/Y	FL/R	FL/R

Wiring Diagram



- A } Micro-loop Detector Lead-in Cable
- B }
- C }
- D - 2-Conductor Cable (Aluminum Shielded)
- E - 2-Conductor Tray Cable (No. 12 A.W.G.)
- F } 5-Conductor Electrical Cable (No. 14 A.W.G.)
- G }
- H }
- J - 7-Conductor Electrical Cable (No. 14 A.W.G.)
- K - Bare Copper Ground Wire (No. 6 A.W.G.)
- L - 3 pcs. 1-conductor No. (4 A.W.G.) - THHN/THWN for Traffic Signal Electrical Service
- M - Existing Interconnect Cable (Jefferson Lane - Holly Tree Road Run)
- N - 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) (Jefferson Lane - Pierce Road Run)
- LW - Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing
- PF - Proposed Underground Electrical Service By SMECO
- ⌘ - Proposed Grounding Rod
- ML - Micro-loop Detector



The Traffic Group
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APPROVALS

TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION

ASST. CHIEF TRAFFIC ENGINEERING DESIGN DIVISION

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, TRAFFIC & SAFETY



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information Plan)
US 301 at Jefferson Lane

DRAWN BY: Frank Hoeckel

CHECKED BY:

SCALE: N/A

DATE: May 12, 2003

F.A.P. NO. N/A

S.H.A. NO. BW996M82

COUNTY: Charles

LOG MILE: 08301024.70

TS NO. 4083

T.I.M.S. NO. E-421

SHEET NO. 2 OF 2

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